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REPORT OF AERIAL SKETCHMAPPING SURVEY OF SAND HILLS STATE FOREST

[Feb. 1971?]

STATE: South Carolina COUNTIES: Chesterfield and Darlington

DATE FLOWN: 1/27/71 and 2/1-2/71 DATE GROUND CHECKED: 2/3-18/71

ACREAGE WITHIN SURVEY BOUNDARY: 92,000 (See Fig. 1)

PERCENT SURVEY COVERAGE: 100 AIRCRAFT: Cessna 172

AERIAL SURVEY CREW: P. J. Barry, J. L. Rauschenberger, E. T. Wilson, and M. C. Remion

GROUND SURVEY CREW: Personnel of the S. C. State Commission of Forestry

SURVEY OBJECTIVES

The primary objective of this survey was the location of "going" black turpentine beetle infestations for the purposes of suppression and reduction of timber losses.

SURVEY RESULTS

A total of 338 spots containing an estimated 703 trees were recorded during the aerial survey as compared with 436 spots containing an estimated 1,045 trees recorded during the September 1970 survey. For further comparisons of these two aerial surveys, see Table 1. below.

TABLE 1. Comparison of Aerial Survey Data From Surveys of September 1970 and February 1971

Spot Size Category	Number of Spots Recorded		Number of Trees Recorded	
	September	February	September	February
Single	246	196	246	196
2-5	158	124	418	317
6-20	31	17	331	155
21-50	1	1	50	35
51+	0	0	0	0
Total	436	338	1045	703

The ground survey involved the examination of 30 spots. The black turpentine beetle was the primary causal agent in 18 of these spots with ips engraver beetles (Ips spp.) being responsible for the remaining 12 spots.

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Pond pine (Pinus serotina Michx.) and longleaf pine (P. palustris) continue to be the host species most severely attached by the black turpentine beetle. Woodpecker activity was observed on 60% of the spots ground checked and is beginning to cause significant losses of last instar larvae and pupae. Larval mortality due to cold temperatures was observed on several spots but has not yet been a significant limiting factor of the beetle population. Parasites and other insect predator populations appear to be increasing rapidly.

SUMMARY

Although no detailed evaluation was performed in conjunction with this survey, it is estimated that losses at the time of the survey were equal to or greater than the volume salvaged during the October through January period (refer to attached progress report). The various observations made during the ground survey indicate an epidemic black turpentine beetle population still exists on Sand Hills State Forest.

The degree of losses we can expect to incur from the black turpentine beetle in the spring and summer of 1971 is largely dependent on the effects of salvage removal, winter severity, predation and parasitism on the current beetle population, and the natural conditions existing for the insect in the early spring and summer of 1971.

RECOMMENDATIONS

1. Removal of infested trees and other salvable timber through commercial sales is recommended throughout the forest. When such methods are employed, it is imperative that stumps be left as low as possible and logging damage to green, unattacked trees in the residual stand be held to a minimum.

   It is further suggested that periodic inspections be made of the salvaged stands to insure containment of the infestation.

2. A 100 percent aerial sketch map survey of Sand Hills State Forest is scheduled for late May or early June 1971. The primary objectives of this survey will be to detect pine bark beetle spots for suppression operations and to conduct a biological evaluation of these infestations.

REFERENCE

Remion, M. C. 1971 - Evaluation of Black Turpentine Beetle Infestations on Sand Hills State Forest in South Carolina - South Carolina State Commission of Forestry

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For additional copies of this report or further information on the survey contact:

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S. C. State Commission of Forestry
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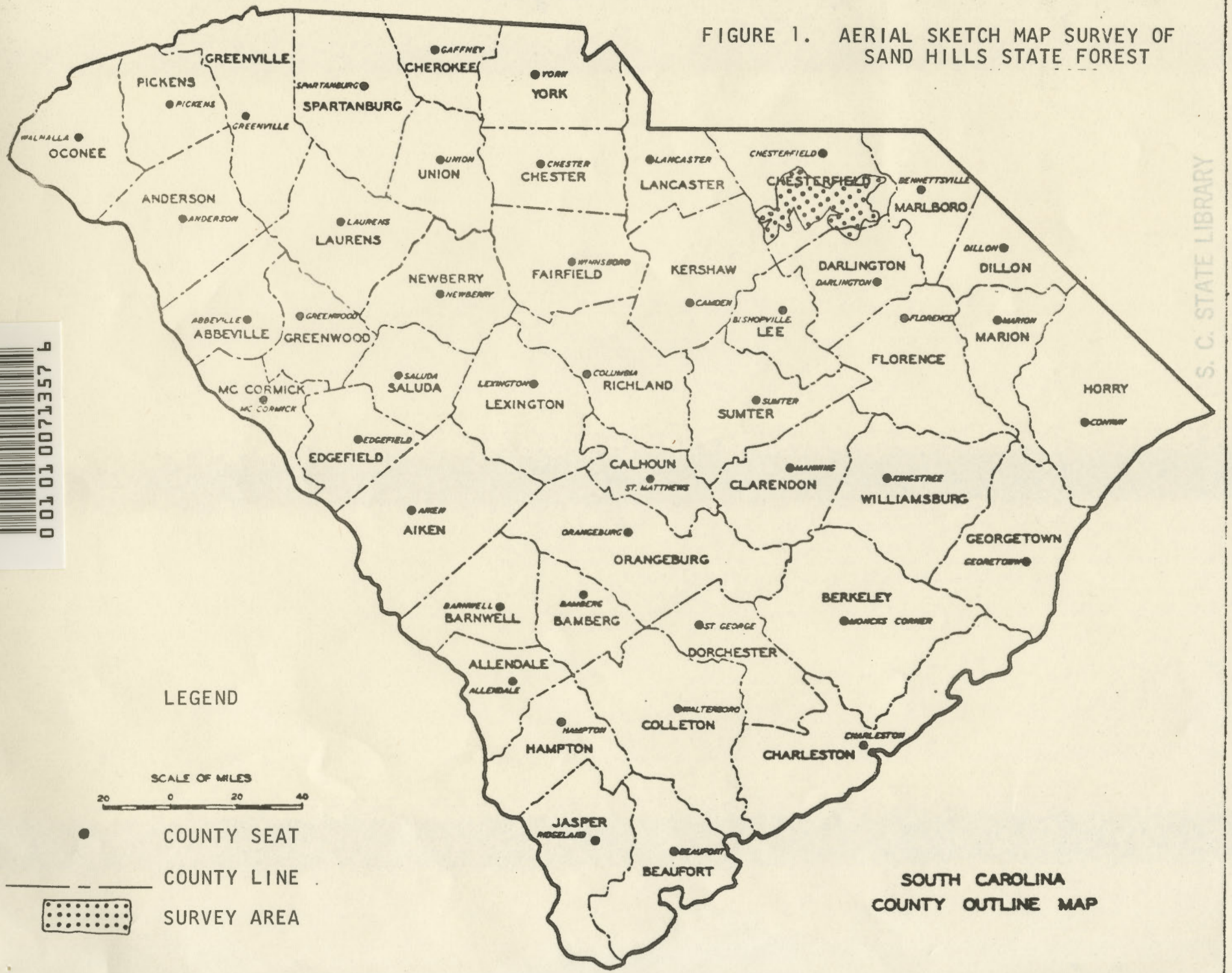
Columbia, S. C. 29202

Prepared by: Remion

FIGURE 1. AERIAL SKETCH MAP SURVEY OF SAND HILLS STATE FOREST



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